

P8910

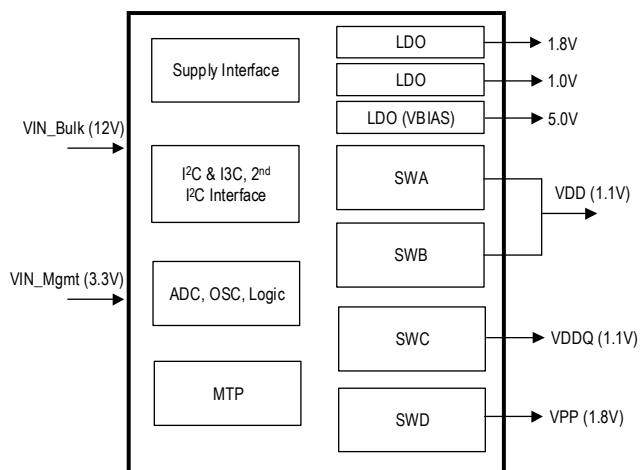
PMIC with Step-Down Switching and LDO Regulators

The P8910 is a highly integrated, highly efficient PMIC with programmable precise output voltage power solution for all DDR5 Server DIMM modules, with four step-down switching output regulators and three LDO output regulators. The PMIC is fully compliant to the JEDEC DDR5 PMIC (PMIC5010; Low Current PMIC) specification. The PMIC is powered from two input power supplies (VIN_Mgmt and VIN_Bulk) from the system board to power its switching and LDO output regulators.

The P8910 has numerous advanced protection schemes to protect itself as well to protect entire BOM contents of DDR5 server DIMM modules. The PMIC offers write protect operation to defend against malicious attacks, and has an advanced I3C bus that can operate at maximum speed of 12.5MHz with low voltage I/O operation.

The PMIC is available in small 5 × 5 mm form factor in VFQFPN package with enhanced solder joint reliability and thermal dissipation.

Block Diagram



Typical Applications

- DDR5 RDIMM for Server/Workstations
- DDR5 LRDIMM for Server/Workstations
- DDR5 NVDIMM for Server/Workstations

Ordering Information

Part Number	Package Description	Carrier Type	Temperature Range	Device Revision
P8910-X0Z001FNG	36-VFQFPN , 5 × 5 mm	Tray	-10 to 125°C	Revision B0
P8910-X0Z001FNG8	36-VFQFPN , 5 × 5 mm	Tape and Reel	-10 to 125°C	

Features

- VIN_Bulk input supply range: 4.25V to 15.0V
- VIN_Mgmt input supply range: 3.0V to 3.6V
- Four step-down switching regulators: SWA, SWB, SWC, and SWD
- Programmable dual-phase and single-phase regulator for SWA and SWB
- Three LDO regulators: VBias, VOUT_1.8V, VOUT_1.0V
- Automatic switchover from VIN_Mgmt input supply to VIN_Bulk input supply
- Error injection capability
- Error log registers
- Write protect mode of operation
- Independently programmable output voltages, power up and power down sequence for switch regulators
- Input and output power-good status reporting mechanism
- VIN_Bulk input supply protection feature: Input overvoltage and input undervoltage
- Output switch regulators protection feature: Output overvoltage, output undervoltage, output current limiter
- Output current measurement, output current threshold mechanism
- Temperature measurement, temperature warning threshold, critical temperature shutdown
- Multi Time Programmable Non-Volatile Memory
- Programmable and DIMM specific registers for customization
- General Status Interrupt Function
- Flexible Open-Drain IO (3.3V, 2.5V, 1.8V, or 1.2V or 1.1V or 1.0V) or Push-Pull IO (1.2V or 1.1V or 1.0V) Support